

What is claimed is:

1. A method of formulating a pharmaceutical composition comprising:
comparing parameters of at least one pharmaceutical and a plurality of compounds,
5 wherein the parameters comprise at least log(P) and molecular weight;
choosing at least one model compound from the plurality of compounds for each pharmaceutical;
providing at least one model compound-excipient formulation comprising at least one model compound and at least one excipient;
10 measuring the diffusion of a model compound of at least one model compound-excipient formulation across at least one membrane;
choosing a model compound-excipient formulation based on the measured model compound diffusion; and
combining components comprising the at least one pharmaceutical and the
15 excipient package of the chosen model compound-excipient formulation.
2. A method according to claim 1, wherein the model compound-excipient formulation is saturated in model compound.
- 20 3. A method according to claim 1, wherein the parameters further comprise the number of freely rotatable bonds.
4. A method according to claim 1, wherein the parameters further comprise the number of H-bond donors and acceptors.
- 25 5. A method according to claim 1, wherein the diffusion is measured utilizing a Franz cell.
6. A method according to claim 1, wherein at least one model compound comprises a
30 dye.

7. A method according to claim 6, wherein measuring the diffusion of the model compound comprises fluorescence spectroscopy.

8. A method according to claim 6, wherein the diffusion of the model compound is simultaneously measured in a plurality of diffusion cells.

9. A method according to claim 8, wherein measuring the diffusion of the model compound comprises recording an image.

10 10. A method according to claim 1, wherein at least one model compound-excipient formulation comprises a plurality of different excipients.

11. A method according to claim 1, wherein diffusion is measured utilizing a chemical reaction.

15 12. A method according to claim 1, wherein at least one membrane comprises a synthetic polymer membrane.

13. A method according to claim 1, wherein at least one membrane comprises skin.

20 14. A method according to claim 1, wherein at least one membrane is selected from the group consisting of hairless mouse skin, snake skin, pig skin, and cadaver skin.

15. A method according to claim 1, wherein the parameters consist of log(P) and
25 molecular weight.

16. A method according to claim 1, wherein at least one parameter of at least one model compound is calculated.

30 17. A method according to claim 1, wherein at least one parameter of at least one model compound is experimentally determined.

18. A method according to claim 1, wherein at least one parameter of the pharmaceutical is calculated.

5 19. A method according to claim 1, wherein at least one parameter of the pharmaceutical is experimentally determined.

10 20. A method according to claim 1, further comprising:
contacting the pharmaceutical composition with the skin of a live mammal; and
observing the result.

15 21. A method according to claim 1, further comprising incorporating the pharmaceutical composition into a transdermal delivery system.

22. A method according to claim 21, further comprising contacting the pharmaceutical composition with the skin of a live mammal and observing the result.

15 23. A method according to claim 21, wherein the transdermal delivery device comprises an adhesive patch.

20 24. A method according to claim 1, wherein prior to measuring diffusion of each model compound-excipient formulation, it is incorporated into an adhesive patch.

25 25. A method according to claim 1, wherein the model compound-excipient formulation comprises a plurality of model compounds.